● ● _(101_

| HUMAN OPERATOR OR EXTERNAL
DEVICE TRIGGERS THE CAMERA |

_(102_

| CAMERA CAPTURES A FRAME AND
PUTS IT INTO THE IMAGE BUFFER |

_(103_

| FRAME NUMBER BUFFER IS
INCREMENTED BY ONE |

_(104_

| GMT RECEIVER CAPTURES TIME AND
PUTS IT INTO THE TIME BUFFER |

_(105_

| GPS RECEIVER CAPTURES THE LOCATION AND
PUTS IT INTO THE LOCATION BUFFER |

_(106_

| CFLT (CAMERA, FRAME, LOCATION, TIME) ENCODER
CREATES ENCODING LAYERS FOR:
CAMERA ID, FRAME NUMBER, TIME, LOCATION |

_(107_

| COMPOSITE ENCODER COMBINES
ALL ENCODING LAYERS, PRODUCES ENCODING |

_(108_

| IMAGE ENCODER COMBINES
IMAGE AND ENCODING, PRODUCES ENCODED IMAGE |

_(109_

| ENCRYPTER ENCRYPTS THE ENCODED IMAGE,
PRODUCES THE ENCRYPTED ENCODED IMAGE |

_(110_

| LOCATION PROCESSOR COMPARES GPS LOCATION TO
LOOK-UP TABLE TO CONVERT SELECTED LOCATIONS
TO REFERENCE NAMES, LEAVE OTHER LOCATIONS
IN GPS FORMAT |

_(111_

| ANNOTATOR OVERLAYS REFERENCE NAME OR LOCATION
AND TIME ONTO ENCRYPTED ENCODED IMAGE |

_(112_

| RESULTANT IMAGE IS TRANSMITTED OR STORED |

FIGURE 1

● ●

RESULTANT IMAGE IS OBTAINED
FROM CAMERA DOWNLOAD OR TRANSMISSION

201

↓

ANNOTATION IS STRIPPED AND USED TO
SORT ON AND LABEL THE IMAGE FILE

202

↓

RESULTANT IMAGE MINUS ANNOTATION
IS DECRYPTED

203

↓

ENCODING FROM THE DECRYPTED IMAGE IS PRODUCED
BY USING KNOWLEDGE OF THE ENCODING ALGORITHMS AND
THE ENCODED INFORMATION (CFLT = CAMERA, FRAME, LOCATION, TIME)
OR BY MATCHING AGAINST ALL POSSIBLE COMBINATIONS
USING FLASHCORRELATION OR OTHER TECHNIQUE

204

↓

IF ENCODING DOES NOT MATCH THE ANNOTATED INFORMATION
OR DOES NOT MATCH ANY POSSIBLE AUTHENTIC ENCODING
THEN THE IMAGE IS RULED TO BE NON-ORIGINAL

205

↓

IF THE ENCODING DOES MATCH THE ANNOTATED INFORMATION
OR DOES MATCH A POSSIBLE AUTHENTIC ENCODING
THEN THE IMAGE IS RULED AN ORIGINAL

206

↓

THE ENCODING IS REMOVED TO YIELD THE ORIGINAL IMAGE
DEPENDING ON THE TYPE OF ENCODING USED, THE ORIGINAL MAY NOW
HAVE VOIDS WHICH ARE FILLED USING STANDARD IMAGE PROCESSING TECHNIQUES
SUCH AS NEAREST NEIGHBOR APPROXIMATION TO PRODUCE THE
RESTORED ORIGINAL IMAGE

207

FIGURE 2

TRIGGER 301

GMT BFFR 306
GMT BUFFER 304

GPS BFFR
GPS BUFFER 305

FRAME # BUFFER

317

318 IMAGE BUFFER

307
CAMERA ID BUFFER

IMAGE Acquisition DEVICE

308
ENCODER

309
LOCATION PROCESSOR
LOOK-UP TABLE 310

ENCODED IMAGE PROCESSOR
311

ENCRYPTION PROCESSOR
312

313
ENCRYPTED ENCODED IMAGE BUFFER

314
ANNOTATOR

315
RESULTANT IMAGE BUFFER

316 TRANSMITTER

PERIPHERAL DEVICE 300

EVIDENTIARY IMAGING SUBSYSTEM

FIGURE 3

PIXEL ENLARGED FOR VISIBILITY
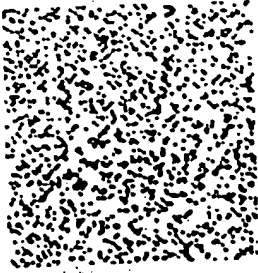
FIGURE 4a
ENCODING OF DATE/TIME
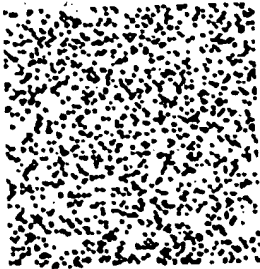
FIGURE 4b
ENCODING OF LOCATION
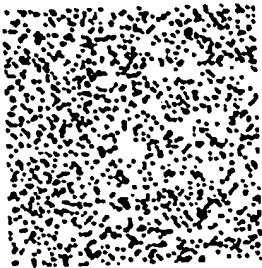
FIGURE 4c
ENCODING OF CAMERA ID
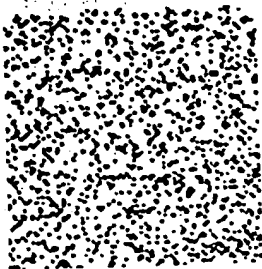
FIGURE 4d
ENCODING OF CAMERA FRAME
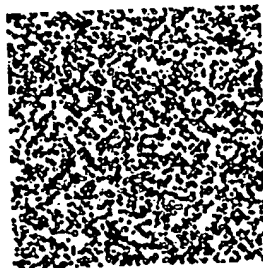
FIGURE 4e
COMPOSITE ENCODING

FIGURE 4
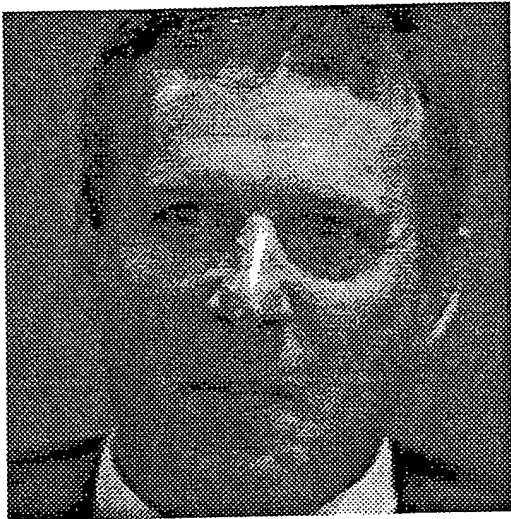
FIGURE 5a

CAPTURED IMAGE
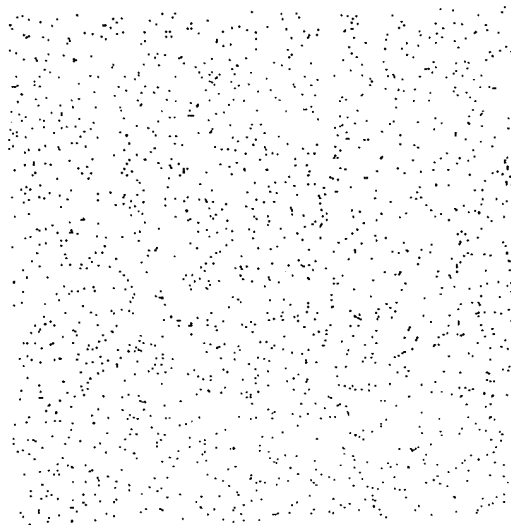
FIGURE 5b

ENCODING
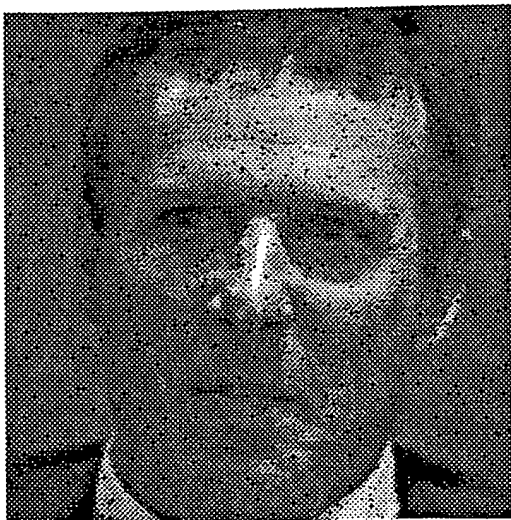
FIGURE 5c

ENCODING + IMAGE
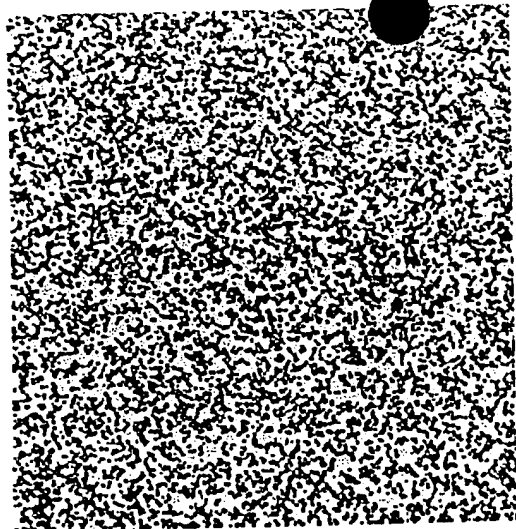
SCRAMBLED ENCODED IMAGE

FIGURE 6a

NYC IBM #23
99/12/25/12/15/00

ANNOTATION

FIGURE 6b
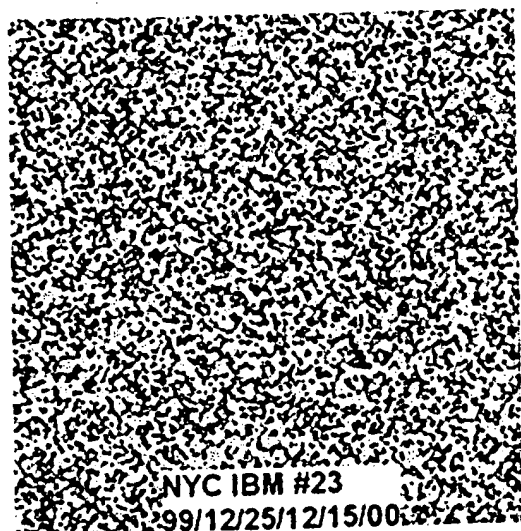

FIGURE 6c

ANNOTATED SCRAMBLED

ENCODED IMAGE

= RESULTANT IMAGE

FIGURE 6

IMAGE RECEIVER 701

ANNOTATION STRIPPER 702

DECRYPTER 704

ENCODED IMAGE BUFFER 705

ENCODING GENERATOR 703

DATABASE OF POSSIBLE VARIABLES 707

AUTHENTICATOR 706

DECISION 708

NO

IMAGE RESTORATION PROCESSOR + DECOMPR 709

YES

RESTORED IMAGE BUFFER 710

TRANSMITTER 711

700

PERIPHERAL DEVICE
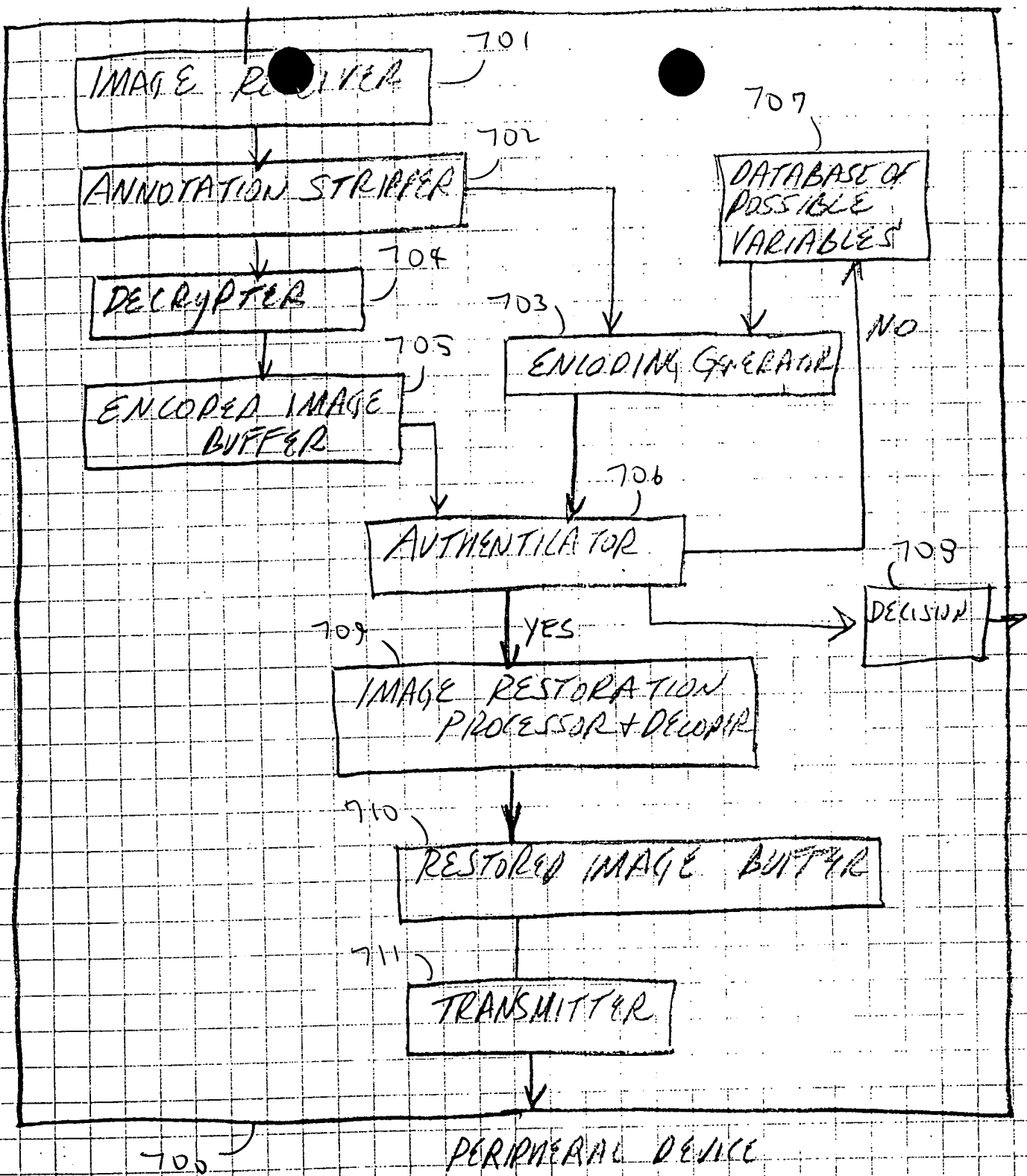
EVIDENTIARY IMAGE RECEIVING + AUTHENTICATION SUBSYSTEM

FIGURE 7
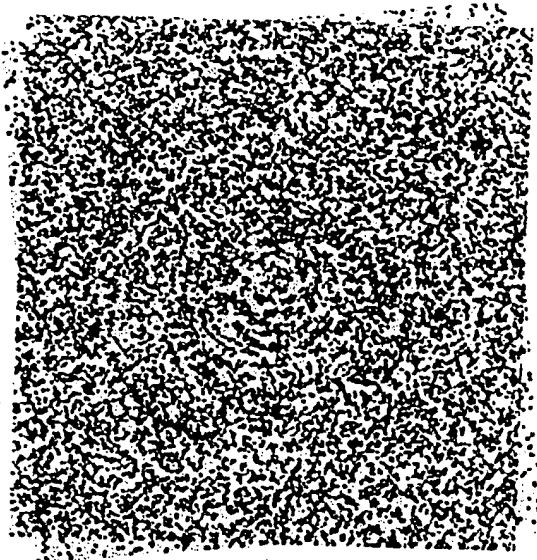
FIGURE 8a
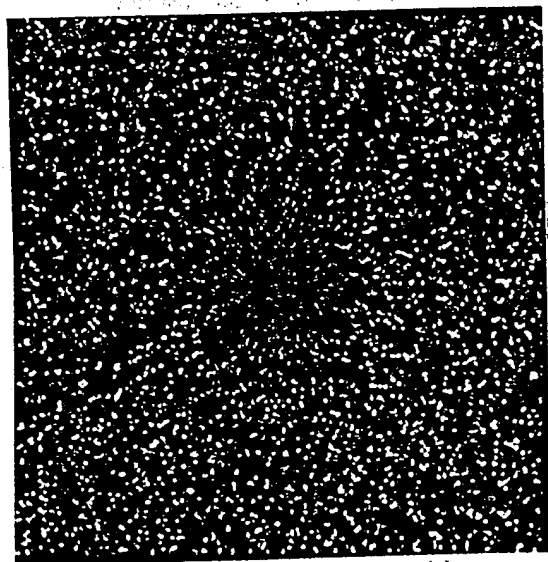
DATE/TIME ENCODING
+/+ FlashCorrelated with the
ENCODED IMAGE

FIGURE 8b

DATE/TIME ENCODING
+/- FlashCorrelated with the
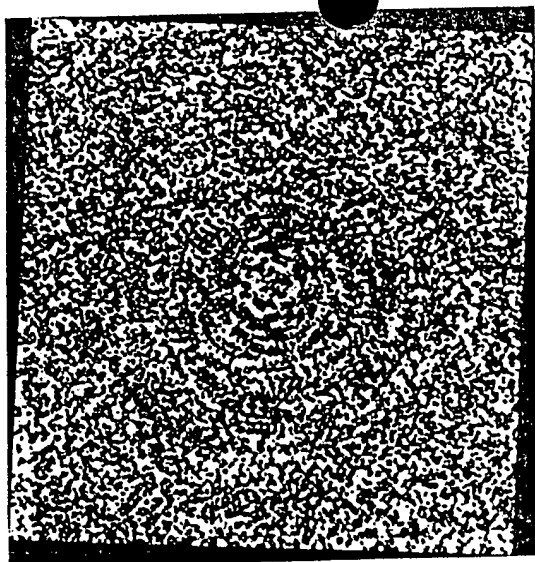ENCODED IMAGE

FIGURES

FIGURE 9a

DATE/TIME AND
LOCATION ENCODING
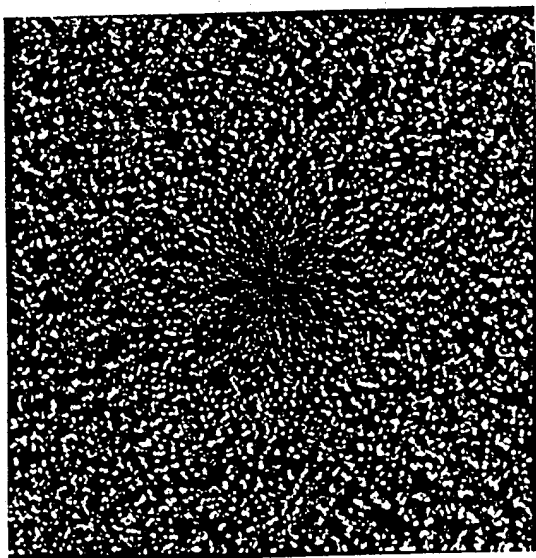+/+ FlashCorrelated with the
ENCODED IMAGE

FIGURE 9b

DATE/TIME AND
LOCATION ENCODING
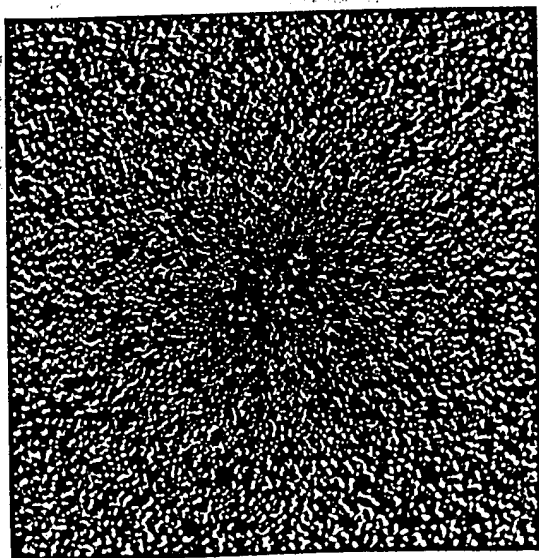+/- FlashCorrelated with the
ENCODED IMAGE

FIGURE 9c

DATE/TIME, LOCATION,
CAMERA ID, FRAME#
ENCODING +/- FC
WITH THE ENCODED IMAGE